

49  
SEQUENCE LISTING

<110> Zamir, Dany  
Plehan, Tzili  
Fridman, Eyal

<120> POLYNUCLEOTIDES ENCODING POLYPEPTIDES HAVING INVERTASE ACTIVITY  
AND USE OF SAME

<130> 02/23531

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<170> Patent in version 3.1

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<210> 3  
 <211> 18  
 <212> DNA  
 <213> Artificial sequence

<220>  
 <223> Single strand DNA oligonucleotide

<400> 3  
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<210> 4  
 <211> 3616  
 <212> DNA  
 <213> Lycopersicon pennellii

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 caatcttcaa gtcgtattag tgtcaagaat gttcatagaa ctggttttca ttttcaacct 180



57

cctaaccatt ggallaatgg tatgttcatt ttttttttat tttatataac atgcgataaa 240  
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 ggtgataaaa ctacagaaat taacgaaaat atttttttta tatagagaaq ttcaaagtgt 480  
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 catatatata agagtgatea ttctttatat ttcaaaatta tatctacata cacacatata 600  
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 caataaatct catgacacgt tttcagatca taattttgna aacacctttt tctttatttt 1260  
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 taatagcaag tatgagaaaa catagaggga tggcattggt gtatagaaat agagatttta 2040  
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58

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 <211> 584  
 <212> PRT  
 <213> Lycopersicon pennellii

<400> 5

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59  
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 20 25 30  
 Ser His Asn Ile Phe Leu Asp Leu Gln Ser Ser Ser Ala Ile Ser Val  
 35 40 45  
 Lys Asn Val His Arg Thr Arg Phe His Phe Gln Pro Pro Lys His Trp  
 50 55 60  
 Ile Asn Asp Pro Asn Ala Pro Met Tyr Tyr Asn Gly Val Tyr His Leu  
 65 70 75 80  
 Phe Tyr Gln Tyr Asn Pro Lys Gly Ser Val Trp Gly Asn Ile Ile Trp  
 85 90 95  
 Ala His Ser Val Ser Lys Asp Leu Ile Asn Trp Ile His Leu Glu Pro  
 100 105 110  
 Ala Ile Tyr Pro Ser Lys Lys Phe Asp Lys Tyr Gly Thr Trp Ser Gly  
 115 120 125  
 Ser Ser Thr Ile Leu Pro Asn Asn Lys Pro Val Ile Ile Tyr Thr Gly  
 130 135 140  
 Val Val Asp Ser Tyr Asn Asn Gln Val Gln Asn Tyr Ala Ile Pro Ala  
 145 150 155 160  
 Asn Leu Ser Asp Pro Phe Leu Arg Lys Trp Ile Lys Pro Asn Asn Asn  
 165 170 175  
 Pro Leu Ile Val Pro Asp Asn Ser Ile Asn Arg Thr Glu Phe Arg Asp  
 180 185 190  
 Pro Thr Thr Ala Trp Met Gly Gln Asp Gly Leu Trp Arg Ile Leu Ile  
 195 200 205  
 Ala Ser Met Arg Lys His Arg Gly Met Ala Leu Leu Tyr Arg Ser Arg  
 210 215 220  
 Asp Phe Met Lys Trp Ile Lys Ala Gln His Pro Leu His Ser Ser Thr  
 225 230 235 240  
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 245 250 255  
 Ser Thr Asn Gly Leu Asp Val Ser Tyr Arg Gly Lys Asn Val Lys Tyr  
 260 265 270

60  
 Val Leu Lys Asn Ser Leu Asp Val Ala Arg Phe Asp Tyr Tyr Thr Ile  
 275 280 285  
 Gly Met Tyr His Thr Lys Ile Asp Arg Tyr Ile Pro Asn Asn Asn Ser  
 290 295 300  
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 305 310 315 320  
 Ser Lys Thr Phe Tyr Asp Pro Ser Arg Asn Arg Arg Val Ile Trp Gly  
 325 330 335  
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 340 345 350  
 Trp Ala Gly Ile Gln Gly Ile Pro Arg Gln Val Trp Leu Asn Leu Ser  
 355 360 365  
 Gly Lys Gln Leu Leu Gln Trp Pro Ile Glu Glu Leu Glu Thr Leu Arg  
 370 375 380  
 Lys Gln Lys Val Gln Leu Asn Asn Lys Lys Leu Ser Lys Gly Glu Met  
 385 390 395 400  
 Phe Glu Val Lys Gly Ile Ser Ala Ser Gln Ala Asp Val Glu Val Leu  
 405 410 415  
 Phe Ser Phe Ser Ser Leu Asn Glu Ala Glu Gln Phe Asp Pro Arg Trp  
 420 425 430  
 Ala Asp Leu Tyr Ala Gln Asp Val Cys Ala Ile Lys Gly Ser Thr Ile  
 435 440 445  
 Gln Gly Gly Leu Gly Pro Phe Gly Leu Val Thr Leu Ala Ser Lys Asn  
 450 455 460  
 Leu Glu Glu Tyr Thr Pro Val Phe Phe Arg Val Phe Lys Ala Gln Lys  
 465 470 475 480  
 Ser Tyr Lys Ile Leu Met Cys Ser Asp Ala Arg Arg Ser Ser Met Arg  
 485 490 495  
 Gln Asn Glu Ala Met Tyr Lys Pro Ser Phe Ala Gly Tyr Val Asp Val  
 500 505 510  
 Asp Leu Glu Asp Met Lys Lys Leu Ser Leu Arg Ser Leu Ile Asp Asn  
 515 520 525

61

Ser Val Val Glu Ser Phe Gly Ala Gly Gly Lys Thr Cys Ile Thr Ser  
530 535 540

Arg Val Tyr Pro Thr Leu Ala Ile Tyr Asp Asn Ala His Leu Phe Val  
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Phe Asn Asn Gly Ser Glu Thr Ile Thr Ile Glu Thr Leu Asn Ala Trp  
565 570 575

Ser Met Asp Ala Cys Lys Met Asn  
580

<210> 6  
<211> 1960  
<212> DNA  
<213> Lycopersicon esculentum

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caatottcaa gtgctattag tgtcaagaa gtccatagaa ctggttttca ttttcaacct 180  
cctaaacatt ggattaatga cctaatgca ccaatgtatt ataatggagt gtatcattta 240  
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gaaaccctaa ggaagcaaaa ggtccaattg aacaacaaga agttgagcaa gggagaaatg 1200  
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62

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aaagagacaa aaattgtgtt aaatttaca gtatgatgtg ttcaaaaaa tctctataa 1860
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<210> 7
<211> 5
<212> PRT
<213> Artificial sequence

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<220>
<223> Beta-fructosidase motif

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<400> 7

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Asn Asp Pro Asn Gly
1          5

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<210> 8
<211> 6
<212> PRT
<213> Artificial sequence

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<220>
<223> Invertase catalytic motif

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<400> 8

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Trp Glu Cys Pro Asp Phe
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<210> 9
<211> 500
<212> DNA
<213> Artificial sequence

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<220>
<223> Sp9 marker probe

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<400> 9
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63

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aaaagttctt ttcaaaatat gaaataaatt totagcctag ggacgaaagt cttttttttt	300
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